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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,690	10/21/2003	David J. Monnie	KLR/KAR:8474.0002	6132
152	7590	12/13/2006	EXAMINER	
CHERNOFF, VILHAUER, MCCLUNG & STENZEL 1600 ODS TOWER 601 SW SECOND AVENUE PORTLAND, OR 97204-3157			SEYE, ABDOU K	
			ART UNIT	PAPER NUMBER
			2194	

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/690,690

Applicant(s)

MONNIE ET AL.

Examiner

Abdou Karim Seye

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/21/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This is the initial office action based on the application filed on October 21, 2003.

Claims 1-47 are currently pending and have been considered below.

Claim Objections

2. Claims 16-30 are objected to because of the following informalities:

Claims 16 contains the element "method" and claims 17-30 contain the element "system". The examiner considers this as a typographical error from the applicant.

Claims 17-30 should have contained the element "method" instead of "system".

A correction is required

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

Claims 12-13, 27-28 and 44-45 contain the trademark/trade name "Java". Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph (see *Ex parte Simpson*, 218 USPQ 1020; Bd. App. 1982). The claim scope is uncertain since the trademark or trade name

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cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade names are used to identify/describe a family of products generated in the proprietary programming language called "Java", accordingly, the identifications/descriptions are indefinite.

Appropriate change is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-9, 16-24 and 31-41 are rejected under 35 U.S.C. 102(b) as being anticipated by **Bacon (US 6247025)**.

Claims 1, 16 and 31: Bacon discloses a system for the concurrent operation of plural computer applications, said system comprising:

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- a. A shared object space capable of simultaneous connection with plural said applications and capable of storing at least one object accessible to at least two said applications when said plural applications are connected with said shared object space (fig. 1/130, col. 4, lines 53-63);
- b. A lock table for storing lock nodes, each said lock node being uniquely associated with a one of said plurality of applications (fig. 1, col. 5, lines 15-27); and
- c. Said object having an object header capable of storing in said object header any selective one of: (1) a selective said lock node; (2) a reference to a selective one of said lock node stored in said lock table; and (3) a default value other than one of said lock nodes or a reference to one of said lock nodes stored in said lock table. (abstract; fig. 1, col. 5, line 7-67).

Claims 2, 17, 37 and 38: Bacon further discloses that said default value is zero (col. 5, lines 44-54).

Claims 3, 18 and 39: Bacon further discloses that said lock table is located in said shared object space (fig. 1, col. 5, lines 15-27).

Claims 4 and 19: Bacon further discloses that said selective one of said lock nodes operates as a cheap lock when stored in said object header (fig. 2, col. 5, lines 44-55).

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Claims 5, 20, 32 and 40: Bacon further discloses a reference to a selective one of said lock nodes stored in said lock table operate as an expensive lock when stored in said object header (fig. 3, col. 6, lines 54-61).

Claims 6 and 21: Bacon further discloses that a reference to a selective one of said lock nodes stored in said lock table operates as an expensive lock when stored in said object header (fig. 3, col. 6, lines 54-61).

Claims 7 and 22: Bacon further discloses that a said application that has a said expensive lock to a said at least one object grants said lock to another said application by swapping the said selective lock nodes for another one of said selective one of said lock nodes, said reference, and said default value for another one of said selective one of said lock nodes, said reference, and said default value (fig. 3, col. 7, lines 4-67).

Claims 8, 23 and 41: Bacon further discloses a lock manager that controls access to at least one object by selectively swapping one of said selective one of said lock nodes, said reference, and said default value for another one of said selective one of said lock nodes, said reference, and said default value (col. 6, lines 6-67; col. 7, lines 65-67, col.8, lines 1-18).

Claims 9 and 24: Bacon further discloses that the swap is atomic (col. 8, lines 30-35).

Claim 32: Bacon discloses a system for the concurrent operation of plural computer applications as in claims 1, 16 and 31 above and further discloses that the header stores an expensive lock when one said application is waiting for said object associated with said header while another said application is using said object associated with said header, and said lock is a cheap lock otherwise (col. 5, lines 56-65).

Claim 33: Bacon discloses a system for the concurrent operation of plural computer applications as in claims 1, 16 and 31 above and further discloses a lock table capable of storing a plurality of lock nodes, each said lock node being uniquely associated with a one of said plurality of applications (fig. 1, col. 5, lines 17-30).

Claim 34: Bacon further discloses that each said application is capable of using said at least one object through a plurality of threads and said lock table stores information as to which threads are waiting for an object being used (col.5, lines 7-30; col. 6, line 40-67).

Claim 35: Bacon further discloses that the threads waiting for said object being used are prioritized to determine which of said threads next gets access to said object being used; scheduling threads (fig. 1, col. 4, lines 64-67; col. 5, lines 1-6).

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Claim 36: Bacon further discloses that said threads waiting for said object being used are not prioritized to determine which of said threads next gets access to said object being used (fig. 4/408-413, col. 8, lines 48-67, col. 9, lines 1-39).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103 (a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 10-15, 25-30 and 42-47 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Bacon. (US 6247025) in view of McGuire et al (20030097360).

Claims 10, 25 and 42: Bacon discloses a system for the concurrent operation of plural computer applications as in claims 1, 16 and 31 above.

But he does not explicitly disclose an application that points to an object that also points a plurality of sub-objects and each said sub-object having an object header.

However, in the same field of endeavor, McGuire discloses a Java Virtual Machine and

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that runs java applications including classes and a heap for storage of objects. Each loaded class represents an object, and therefore can be found on the heap. In Java a class effectively defines a type of object, and this is then instantiated one or more times in order to utilize the object. Each such instance is itself an object, which can be found in heap (fig. 2/145, paragraph 52, 53, 54 and 55). Thus one class object may point to many other objects or sub-objects or may represent other object instances with an object header (paragraph 18 and 24; fig. 4A, 4B, 6 and 7).

It would be obvious to one having ordinary skill in the art at the time the invention was made to modify Bacon's invention with McGuire's invention in order to develop a locking mechanism for shared objects in share space that would preserve operational independence between different applications and classes. One would have been motivated to have an object that comprises a plurality of sub-objects and each said sub-object having an object header in the designing of a looking mechanism, in order to lower the inconsistency of share object in share object space. Therefore to optimize the overall java system locking performance.

Claims 11-13, 26-28 and 43-45: Bacon discloses a system and method for the concurrent operation of plural computer applications as in claims 1, 16 and 31 above, but does not explicitly disclose that the plural application runs in its own virtual machine. However, McGuire discloses a system that comprises multiple java virtual machine (VMs) and each VM is capable of running a plurality of threads (abstract; fig1/40; fig. 2/40; paragraph 54 and 60). It would be obvious to one having ordinary skill

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in the art at the time the invention was made to modify Bacon's invention with McGuire's invention in order to include the virtual machine. The Java VM includes a just-in-time (JIT) compiler and this forms machine code to run directly on the native platform by a compilation process from the class files. One would have been motivated to include the virtual machine component in the design of a locking mechanism in order to improve the run-time performance by avoiding the need for the code to be interpreted later (perhaps repeatedly) by and another interpreter component of the system.

Claims 14-15, 29-30 and 46-47: McGuire further discloses a non-object oriented application such as "C" (paragraph 54). It would be obvious to one having ordinary skill in the art at the time the invention was made to write the plural applications in any non-object oriented language to include "C ". One would have been motivated to include "C" software application as one type of application that could be executed within the JVM to access object using Java native interface in view of the fact that "C " is widely used programming language throughout the internet and the World Wide Web (WWW).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

Onodera (20010014905) discloses a method and apparatus for managing a lock for an object.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Exr. Abdou Seye whose telephone number is (571) 270-1062. The examiner can normally be reached Monday through Friday from 7:30 a.m. to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, contact the examiner's supervisor, William Thomson at (571) 272-3718. The fax phone number for formal or official faxes to Technology Center 3600 is (571) 273-8300. Draft or informal faxes, which will not be entered in the application, may be submitted directly to the examiner at (571) 273-6722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (571) 272-3600.

AKS
November 30, 2006

William Thomson
Supervisory Patent Examiner



WILLIAM THOMSON
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